Comment Type: T  Comment Status: R
What is the relevance of PLS.CARRIER.indication in this description of transmit operation?

Suggested Remedy
Consider deleting PLS.CARRIER.indication from this diagram. Or maybe it should be moved to Figure 22-9a which describes receive operation?

Response  Response Status: C
REJECT.

PLS.CARRIER.indication is used, along with a Clause 4A MAC, to prevent the MAC from sending data before the wake timer has expired.

This mechanism is based on the proposal from a noted Ethernet expert shown by the following link:
http://www.ieee802.org/3/efm/public/jan02/marris_1_0102.pdf

Comment Type: T  Comment Status: A
RXD<7:0> <= 0000 0001 should be add to LP_IDLE state actions.

Suggested Remedy
as above

Response  Response Status: C
ACCEPT.

Comment Type: T  Comment Status: A
Missing underline on added paragraph

Suggested Remedy
Underline the penultimate paragraph on page 83.

Response  Response Status: C
ACCEPT.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Cl 22 SC 22.2.2.6a P 30 L 33 # 6
Marris, Arthur Cadence

Comment Type TR Comment Status A
It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy
Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78.
Do the same in 22.2.2.9a on page 32.
Also in 22.7a on page 33.
Add LPI client to Figure 22-20a removing mention of station management.

Response Response Status C
ACCEPT IN PRINCIPLE.
Change "MAC device" to "LPI client"
p.30, l.33; p.32, l.28; p.33, l.9 & l.11
Change "station management" to "LPI client service interface" - p.33, l20 & l36
Add at the beginning of 22.7a:
"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl 35 SC 35.2.2.6a P 70 L 47 # 7
Marris, Arthur Cadence

Comment Type TR Comment Status A
It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy
Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78.

Also 35.2.2.9a on page 72.

Response Response Status C
ACCEPT IN PRINCIPLE.
Change "MAC device" to "LPI client"
p.70, l.71; p.71, l.71; p.72, l.45, l.48
At the beginning of 35.2.2.6a, insert:
"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl 46 SC 46.3.1.5a P 127 L 44 # 8
Marris, Arthur Cadence

Comment Type TR Comment Status A
It is not the MAC that controls LPI transitions it is the LPI client.

SuggestedRemedy
Change 'MAC device' to 'LPI client' and put in a cross-reference to Clause 78.
Also 46.3.2.4a on page 130.

Response Response Status C
ACCEPT IN PRINCIPLE.
Change "MAC device" to "LPI client"
p.127, l.44, l.48, l.51; p.130, l.6, l.8
Add at the beginning of 46.3.1.5a and 46.3.2.4a:
"Low Power Idle operation and the LPI client are described in Clause 78.1."

Cl 46 SC Figure 46-7a P 128 L 11 # 9
Marris, Arthur Cadence

Comment Type TR Comment Status A
TXC should show high for regular idle and FB start of frame.

SuggestedRemedy
Have TXC high for everything except the three Xs indicating frame data at the right hand side of the figure.
Also do the same for RXC in Figure 46-8a

Response Response Status C
ACCEPT.
See #137, 138
### Comment responses

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>CL</th>
<th>SC</th>
<th>Page</th>
<th>Line</th>
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<th>Cadence</th>
<th>Author</th>
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<tr>
<td>#10</td>
<td>46</td>
<td>46.3</td>
<td>126</td>
<td>34</td>
<td>TR</td>
<td>R</td>
<td>Cadence</td>
<td>Marris, Arthur</td>
<td>May 2009</td>
<td>The proposed use of a new type of idle for 10G has a big impact on existing implementations and seems unnecessary when sequence ordered sets could be used for link status signalling.</td>
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<td>SuggestedRemedy: Please consider defining a new sequence ordered set to indicate LPI for 10Gbit Ethernet (see Table 46-5 in existing 802.3 standard). This would have less impact on existing implementations and could be transported by existing network infrastructure.</td>
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<tr>
<td>#11</td>
<td>36</td>
<td>36.2.4.12a</td>
<td>77</td>
<td>3</td>
<td>TR</td>
<td>A</td>
<td>REALTEK SEMICON</td>
<td>CHOU, JOSEPH</td>
<td>Current implementations will not support transitioning power states or interrupting the data stream to support sleep/wake cycles as required by the new standard, so compatibility with existing systems (while signaling LPI) is not an issue.</td>
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<td>SuggestedRemedy: Need to define them or replace them with actual contents</td>
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<tr>
<td>#12</td>
<td>24</td>
<td>24.2.4.4</td>
<td>49</td>
<td>13</td>
<td>TR</td>
<td>A</td>
<td>REALTEK SEMICON</td>
<td>CHOU, JOSEPH</td>
<td>The value of LP_IDLE in Figure 24-8 is not defined here. It is apparently the codeword 0001 specified in Table 22-1 and also defined as TX_LP_IDLE in 24.2.3.1. This LP_IDLE is used in several places in this figure.</td>
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<td>SuggestedRemedy: Either replace LP_IDLE with TX_LP_IDLE and define TX_LP_IDLE clearly in 24.2.3.1 or replace it with the value 0001.</td>
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<td>24</td>
<td>24.2.4.4</td>
<td>49</td>
<td>13</td>
<td>TR</td>
<td>A</td>
<td>REALTEK SEMICON</td>
<td>CHOU, JOSEPH</td>
<td>The value of LP_IDLE in Figure 24-11b is not defined here. It is apparently the codeword 0001 specified in Table 22-2 and also defined as RX_LP_IDLE in 24.2.3.1. This LP_IDLE is used in several places in this figure.</td>
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<td>SuggestedRemedy: Either replace LP_IDLE with RX_LP_IDLE and define RX_LP_IDLE clearly in 24.2.3.1 or replace it with the value 0001.</td>
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</tbody>
</table>

**Comment Type:** TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general  
**COMMENT STATUS:** D/dispatched  A/accepted  R/rejected  
**RESPONSE STATUS:** O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn  
**SORT ORDER:** Comment ID
Comment responses

Insert text to reference the TIA cabling equivalent to ISO class D. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

Suggested Remedy

Revise sentence as follows:

"The medium for 10BASE-Te is a channel meeting or exceeding the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel specified by ANSI/TIA/EIA-568-A-1995."

Response

ACCEPT IN PRINCIPLE.

Comment was changed from "E" to "T"

Add the following sentence after the sentence on line 37:

These channel requirements can also be met by the category 5 channel specified by ANSI/TIA/EIA-568-A-1995.

Comment status A

Response status C

Type: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

Comment status D/dispatched A/accepted R/rejected

Response status O/open W/written C/closed U/unsatisfied Z/withdrawn

Sort order: Comment ID

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Comment ID # 15

5/6/2009 10:19:04 AM
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Comment ID # 16
Maguire, Valerie

Comment Type: T
Comment Status: A

Insert text to reference the TIA cabling equivalent to ISO class D and add a note (similar to the existing ISO note) indicating that the latest version of the standard specifies a media that exceeds the minimum requirements of the standard. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

Note: ANSI/TIA-568-C.2 is anticipated to be published August, 2008.

Suggested Remedy
Insert text as follows:

"...the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel as specified in ANSI/TIA/EIA-568-A-1995.

NOTE - ANSI/TIA-568-C.2 provides a specification for category 5e media that exceeds the minimum requirements of this standard."

Leave the note related to ISO as it stands.

Response: ACCEPT IN PRINCIPLE.
Comment was changed from "E" to "T"

Insert text as follows:

"...the requirements of the Class D channel specified by ISO/IEC 11801:1995 or the category 5 channel as specified in ANSI/TIA/EIA-568-A-1995."

Delete the Note on lines 23/24 as this note reflects unchanged text in the base standard.

Comment ID # 17
Maguire, Valerie

Comment Type: T
Comment Status: A

Insert text to reference the TIA cabling equivalent to ISO class D. This revision is consistent with text in other locations of the document (see clause 78.1.1, page 237, line 27).

Suggested Remedy
Insert text as follows:

"...for operation over 0 m to at least 100 m of ISO/IEC 11801:1995 Class D, ANSI/TIA/EIA-568-A-1995 category 5, or better cabling."

Response: ACCEPT IN PRINCIPLE.
Comment was changed from "E" to "T"
Replace the last sentence shown on lines 13/14 with:
The 10BASE-T PHY operation requires ISO/IEC 11801:1995 Class D or better cabling. This requirement can also be met by Category 5 cable and components as specified in ANSI/TIA/EIA-568-A-1995.

Comment ID # 18
McIntosh, James

Comment Type: E
Comment Status: A

I realized the acronym WTF clearly has the technical meaning of "Wake Time Fault" in this context, but there is another common use of this acronym among the internet community that is inappropriate.

Suggested Remedy
Avoid use of acronym WTF, or replace with a different one.

Response: ACCEPT IN PRINCIPLE.
Replace "WTF" with "fault"
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments  May 2009

<table>
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<tr>
<th>Comment ID</th>
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<tr>
<td>19</td>
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<td>21</td>
<td>ER</td>
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<tr>
<td>Cl 40 SC 40.2.11 P 95 L 8</td>
<td>There is a subclause numbering problem starting here. There are two subclause 40.2.11s. The first is on page 94, line (PMA_LPIMODE.indication) and the second is on page 95, line 8 (PMA_LPIREQ.request).</td>
<td>Renumber subclauses 40.2.xx starting here (page 95, line8): 40.2.12 PMA_LPIREQ.request</td>
<td>ACCEPT IN PRINCIPLE.</td>
<td>Add footnote to bottom of Table 45-84: LH = Latching High.</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>McIntosh, James Vitesse</td>
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<td></td>
<td>Also complete the definition of the primitive PMA_LPIMODE.indication by adding: 40.2.1.2 When generated The PMA PHY Control function generates PMA_LPIMODE.indication messages continuously. 40.2.1.3 Effect of receipt Upon receipt of this primitive, the PCS performs its Receive function as described in 40.3.1.4.</td>
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<tr>
<td>20</td>
<td>ER</td>
<td>C</td>
<td>22</td>
<td>ER</td>
<td>C</td>
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<tr>
<td>Cl 45 SC 45.2.3.2 P 119 L 21</td>
<td>Register 3.22 in Table 40.3 is called &quot;1000BASE-T wake error counter&quot; here, but called &quot;EEE wake error counter&quot; in clause 45.</td>
<td>Rename to &quot;EEE wake error counter&quot;.</td>
<td>ACCEPT.</td>
<td>Change reference/link to 24.1.1 (or the appropriate reference).</td>
<td>ACCEPT.</td>
</tr>
<tr>
<td>McIntosh, James Vitesse</td>
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<td>Also corrected PICS PMF33.</td>
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<tr>
<td>23</td>
<td>ER</td>
<td>A</td>
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<td>ER</td>
<td>A</td>
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<tr>
<td>Cl 45 SC 45.2.3.9a.5 P 121 L 15</td>
<td>We reference subclause 40.2.11 here and in subcluse 45.2.7.13a.5 (page 122, line 53) as the definition of support of EEE operation for 1000BASE-T. This does not seem correct. Would 40.1.3 be a better reference?</td>
<td>Change reference/link to 40.1.3 (or the appropriate reference).</td>
<td>ACCEPT.</td>
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<tr>
<td>McIntosh, James Vitesse</td>
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<tr>
<td>25</td>
<td>ER</td>
<td>A</td>
<td>26</td>
<td>ER</td>
<td>A</td>
</tr>
<tr>
<td>Cl 45 SC 45.2.3.9a.6 P 121 L 19</td>
<td>We reference subclause 25.4.11 here and in subcluse 45.2.7.13a.6 (page 123, line 3) as the definition of support of EEE operation for 100BASE-TX. This does not seem correct. Would 24.1.1 be a better reference?</td>
<td>Change reference/link to 24.1.1 (or the appropriate reference).</td>
<td>ACCEPT.</td>
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</tbody>
</table>

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched  A/accepted  R/rejected  RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn
SORT ORDER: Comment ID
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

Comment ID # 24
Cl 40 SC 40.5.1.2 P 112 L 27 # 24
Healey, Adam LSI Corporation
Comment Type T Comment Status A
Unformatted next page 4 serves no purpose and need not be sent.
Suggested Remedy
Delete Page 4 (Unformatted next page) from Table 40-4.
Response Response Status C
ACCEPT.

Comment ID # 25
Cl 40 SC 40.1.3 P 90 L 4 # 25
Healey, Adam LSI Corporation
Comment Type T Comment Status R
Additional test modes should be defined to facilitate verification of a device's compliance to the specification.
Suggested Remedy
Presentation to be submitted for Task Force review.
Response Response Status C
REJECT.

Comment ID # 26
Cl 22 SC 22.7a.2.2 P 34 L 30 # 26
Healey, Adam LSI Corporation
Comment Type T Comment Status A
It has been established that no PHY, within the scope of P802.3az, requires a minimum LPI assertion time.
Suggested Remedy
Delete the definition of li_timer and its use in the Transmit LPI state diagram (Figure 22-21).
Response Response Status C
ACCEPT.

Comment ID # 27
Cl 24 SC 24.2.4.2 P 47 L 12 # 27
Healey, Adam LSI Corporation
Comment Type T Comment Status A
Now that lpi_tx_ts_timer and lpi_tx_tr_timer are of the same duration, the states TX_SLEEP and TX_REFRESH are essentially identical in that they execute the same actions and share the same exit conditions. The state diagram could be simplified by merging them.
Suggested Remedy
Merge the TX_SLEEP and TX_REFRESH states.
Response Response Status C
ACCEPT.

The following area of draft need to be changed accordingly:
1. Remove state TX_REFRESH of Figure 24-8. Add "tx_quiet<=FALSE" action to TX_SLEEP state.
2. Remove description of lpi_tx_tr_timer in page 46.
3. Modify the row containing Refresh in Table 24-2 to make it refer to the Sleep state.

Comment ID # 28
Cl 28C SC 28C.12 P 256 L 44 # 28
Healey, Adam LSI Corporation
Comment Type T Comment Status A
"...with at least two unformatted next pages that contain information defined in 45.2.7.13a."
There is currently only one unformatted next page following the message page.
Suggested Remedy
Change to "...with at least one unformatted next page..."
Response Response Status C
ACCEPT.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Comment Type  T  Comment Status  A
1. There is no need to define an upper bound on the signal level that is delivered after 700 ns. A PHY that delivers a full amplitude signal should still be compliant.

2. The concept of "symbols ratio" is not clearly defined in the draft, but for the purpose of the wake signal it seems that nothing more than the signal level needs to be defined.

SuggestedRemedy
Change:
"The wake signal shall be between 50 and 75% of the nominal idle levels with a symbols ratio within 10% of a nominal idle signal. These requirements shall be met within 700 ns following entry into the WAKE state."

To:
"The wake signal shall be no less than 50% of the nominal idle levels within 700 ns following entry into the WAKE state."

Response  Response Status  C
ACCEPT IN PRINCIPLE.

"The wake signal shall be no less than 65% of the nominal idle levels within 700 ns following entry into the WAKE state."

Comment Type  T  Comment Status  A
This text should be updated to describe the additional next page exchanges for Energy Efficient Ethernet.

SuggestedRemedy
Update the text accordingly.

Response  Response Status  C
ACCEPT.

The text will be consistent with the information already recorded in Annex 28C and Clause 45.

Comment Type  T  Comment Status  A
Table 40-4 is missing the EEE Technology Message page.

SuggestedRemedy
Define Page 3 as a Message next page with the EEE technology message code. Page 4 would then be the Unformatted next page currently defined as Page 3.

Response  Response Status  C
ACCEPT.

The text will be consistent with the information already recorded in Annex 28C and Clause 45.

Comment Type  T  Comment Status  A
"> minimum LPI assertion time" in Figure 22-6a became obsolete in one of the last drafts and is not referred somewhere else anymore.

SuggestedRemedy
Remove it from the drawing.

Response  Response Status  C
ACCEPT.

Comment type changed to a T
See also #26

Response  Response Status  C
ACCEPT IN PRINCIPLE.

See response to comment #243

Comment ID #  33

Page 8 of 54
5/6/2009 10:19:05 AM
PCS code group P does not properly specify the MII (TXD/RXD) which is "undefined". In general this would also hold true for the Idle "I" group.

Suggested Remedy
Make a link into clause 22 specifying the coding of P at the MII or alternatively inserting "0001" and a footnote commenting on TX_EN and TX_ER coding.

Insert "0001" and provide a reference to clause 22

The RX_SLEEP state does not encode all possible cases for a state-transition leading to a hand-up of the FSM in case of Transmitter false behavior. In particular this happens when the lpi_rx_ts_timer expires but still signal power is present (which might be subject to a transmitter false behavior).

Suggested Remedy
Introduce a state-transition to RX_LPI_LINK_FAIL when signal_status=ON*lpi_rx_ts_timer_done

Modify the definition of lpi_rx_ts_timer on page 45 as follows:

lpi_rx_ts_timer

In low power receive state, this receiver timer counts the maximum duration PHY is allowed to stay in Sleep state before assuming a link failure. The timer shall have a period between 240 us to 260 us.
Figure 22-21 TX LPI State Diagram does not include the case when the MAC is allowed to assert LPI first after a link-up. In particular this could cause problems in 100BASE-TX modes since the state-diagram suggests that the MAC could signal an LPI assertion directly after reset, i.e. during ANEG (which is useless) or link-up of 100BASE-TX. This in turn could cause link-up instabilities.

Suggested Remedy

Introduce a state "WAIT_ON_LINKUP" into which a transition goes after reset. Only after Link-Up has been indicated via Management Registers the MAC is allowed to assert LPI. In case of a Link-Down or reset a re-transition into "WAIT_ON_LINKUP" is required.

Response

ACCEPT IN PRINCIPLE.

The suggested remedy will not have the desired effect. The TX LPI state machine does not restrict the signaling of LPI from the LPI client to the PHY, it only controls the flow of data from the MAC to the PHY during wake.

Alternative solution:

In 22.7a.1 LPI messages (p.34, l.3) add the following:

"LPI_IDLE.request shall not be set to ASSERT unless the attached link is operational (i.e. link_status = READY, see 28.2.6.1.1). LP_IDLE.request shall remain to be set to DEASSERT for 1 second following link_status changing state to READY."

---

The PMA sublayer mentions a PMD signal called energy_detect, but there is no energy_detect in any of the supporting PMD sublayers.

The PCS also references this signal.

Could this signal be an extra state of the signal_detect from the PMD? The SIGNAL_OK could be expanded to be OK, FAIL and ENERGY_DETECTED.

Suggested Remedy

Either add energy_detect to the PMD sublayers or add a new state for the signal Detect variable from the PMD.

Response

ACCEPT IN PRINCIPLE.

Change definition for signal_detect in Clause 72 to fulfill energy_detect function (similarly to other PMDs).

"For Energy Efficient Ethernet, the SIGNAL_DETECT parameter shall be set to OK within 2µs after activation of a compliant transmitter and shall be set to FAIL within 2µs after deactivation of a compliant transmitter."

Change to:

"For Energy Efficient Ethernet, the SIGNAL_DETECT parameter can take on one of two values: OK or FAIL, indicating whether the PMD is detecting electrical energy at the receiver (OK) or not (FAIL). When SIGNAL_DETECT = FAIL, PMD_UNITDATA.indication(rx_bit) is undefined."

Also, change the definition of energy_detect in 51.8a.1:

"A boolean variable sent from the PMD that is set to TRUE when signal energy is detected at the receiver and is set to FALSE otherwise. This variable is derived directly from the PMD signal_detect parameter. When PMD signal_detect is OK, energy_detect is TRUE; when PMD signal_detect is FAIL, energy_detect is FALSE."

The GMII may also support low power idle signaling as defined for Energy Efficient Ethernet in Clause 78 for some PHY types.
The PMA service interface also has a physical instantiation known as XSBI. There are no changes to XSBI to permit the exchange of the energy_detect variable across the physical interface.

**SuggestedRemedy**
Provide a means to pass the energy_detect information across XSBI.

**Response**
ACCEPT IN PRINCIPLES.

Add energy_detect, rx_quiet, tx_quiet into Fig 51-3

Add definitions in 51.4.2

- **energy_detect:** If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface includes energy_detect as described in 51.8a.
- **rx_quiet:** If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface may include rx_quiet as described in 51.8a.
- **tx_quiet:** If the optional Energy Efficient Ethernet function is supported (see Clause 78) then the XSBI interface may include tx_quiet as described in 51.8a.

**Comment Type:** E
**Comment Status:** A
Clarity explanation of LPI operation by editing text. The following sentence is unclear and hard to read:

"Similarly, RX_ER and RXD<3:0> are mapped to PLS_DATA.indication except when LP_IDLE is detected and CRS is mapped to PLS_CARRIER.indication except when LP_IDLE.request is asserted or the wake timer has yet to expire."

**SuggestedRemedy**
Restructure the following paragraph:

"The LPI assertion and detection mechanism fits conceptually between the PLS Service Primitives and the MII signals as shown in Figure 22-20a. The definition of TX_EN, TX_ER and TXD<3:0> is derived from the state of PLS_DATA.request (22.2.1.1), except when it is overridden by an assertion of LP_IDLE.request. Similarly, RX_ER and RXD<3:0> are mapped to PLS_DATA.indication except when LP_IDLE is detected and CRS is mapped to PLS_CARRIER.indication except when LP_IDLE.request is asserted or the wake timer has yet to expire."

to read (use bullets for the sub points)

"The LPI assertion and detection mechanism fits conceptually between the PLS Service Primitives and the MII signals as shown in Figure 22-20a.

- **TX_EN, TX_ER and TXD<3:0>** is derived from the state of PLS_DATA.request (22.2.1.1), except when it is overridden by an assertion of LP_IDLE.request.

- Similarly, **RX_ER and RXD<3:0>** are mapped to PLS_DATA.indication, except when LP_IDLE is detected

- **CRS is mapped to PLS_CARRIER.indication, except when LP_IDLE.request is asserted or the wake timer has yet to expire."

**Response**
ACCEPT.
IEEE P802.3az D1.3 Energy Efficient Ethernet comments  May 2009

Dietz, Bryan  Alcatel-Lucent

Comment Type: E  Comment Status: A

Typo: change "the Energy Efficient Ethernet" to "Energy Efficient Ethernet".

Response  Response Status: C

ACCEPT.

Dietz, Bryan  Alcatel-Lucent

Comment Type: E  Comment Status: A

Typo: Insert space between "4" and "Figure 24-8".

Response  Response Status: C

ACCEPT IN PRINCIPLE.

Dietz, Bryan  Alcatel-Lucent

Comment Type: E  Comment Status: A

Typo: Delete the "4" in "4Figure 24-8".

Response  Response Status: C

ACCEPT.

Dietz, Bryan  Alcatel-Lucent

Comment Type: E  Comment Status: A

Typo: "While RX_DV is de-asserted, the PHY may provide a False Carrier indication or assert low power idle by asserting the RX_ER signal while driving the specific value listed in Table 35-2 onto RXD<7:0>. See 36.2.5.2.3 for a description of the conditions under which a PHY will provide a False Carrier indication and low power idle transitions are described in 35.2.2.9a."

Response  Response Status: C

ACCEPT.
Comment IDs: 46, 47, 48, 49, 50, 51

**Comment 46**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Delete one of the two periods.
- **Response:** ACCEPT.

**Comment 47**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Replace trailing right parenthesis with period.
- **Response:** ACCEPT.

**Comment 48**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Change "inter-frame" to "inter-frame idle" to be consistent with the rest of the document.
- **Response:** ACCEPT.

**Comment 49**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Change /LPI/ to /LI/ to be consistent with rest of document. Also make the same change in page 220, line 18.
- **Response:** ACCEPT.

**Comment 50**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Change "inter-frame" to "inter-frame idle" to be consistent with the rest of the document.
- **Response:** ACCEPT.

**Comment 51**
- **Type:** E
- **Status:** A
- **Suggested Remedy:** Remove period before "FEC".
- **Response:** ACCEPT.
Comment Type: E  Comment Status: A
Clarify text. Edit the "de-assert" description to match the style and format of the "assert" description by combining two short paragraphs.

SuggestedRemedy
Change the three paragraphs starting at page 240 line 51 to read:

“When the Low Power Idle request is deasserted, indicated by the LPI_REQUEST parameter set to DEASSERT in the LP_IDLE.request primitive of the LPI Client interface, the LPI assert function starts to transmit the 'normal inter-frame' encoding on the xMII. After a delay the LPI assert function sets the CARRIER_STATUS parameter to CARRIER_OFF in the PLS_CARRIER.indication primitive of the PLS service interface, allowing the MAC to start transmitting again.

The delay on deassert is provided to allow the link partner to prepare for normal operation.

The delay has a PHY dependant default value but this value can be adjusted using the Data Link Layer capabilities defined in 78.4.

Response Status: C
ACCEPT.

Comment Type: E  Comment Status: A
Change "Low Power Mode" to "Low Power Idle Mode" to match other definitions on this page.

SuggestedRemedy
Change "Low Power Mode" to "Low Power Idle Mode" to match other definitions on this page.

Response Status: C
ACCEPT IN PRINCIPLE.
Text was changed. See response to comment # 214.

Comment Type: T  Comment Status: A
Minor editorial clarification.

SuggestedRemedy
Change "Devices that require additional sleep times" to "Devices that require longer wake up times".

Response Status: C
ACCEPT.

Good catch, we specify wake up and not sleep times. Changed type to technical in the Comment Type field.

Comment Type: E  Comment Status: A
Use plural form

SuggestedRemedy
Change "Implementation" to "Implementations".

Response Status: C
ACCEPT.
IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Response #57
Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A
First sentence in paragraph is duplicated.

Suggested Remedy
Remove duplicated first sentence in this paragraph. Remove duplicated first sentence in this paragraph.

Response: Response Status: C
ACCEPT IN PRINCIPLE.

Agreed. Commenter has also duplicated his suggested remedy!

Response #58
Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: R
Clarification

Suggested Remedy
Consider swapping sections 78.4.1.1 and 78.4.1.2. The meaning of Tw is more clear if the Receive Tw is described before Transmit Tw.

Response: Response Status: C
REJECT.

Both sections reference the "other side" of the link (i.e. TX to RX and vice-versa) hence clarification by swapping maybe marginal and an argument for keeping as is may be made for clarification as well.

Response #59
Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A
Typo

Suggested Remedy
Add space before word "constants".

Response: Response Status: C
ACCEPT.

Response #60
Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A
Clarify meaning of variable.

Suggested Remedy
Insert "Data Link Layer ready" before "This variable indicates." The term "dll" has other software meanings that are confusing in this case.

Response: Response Status: C
ACCEPT IN PRINCIPLE.

In addition to requested change see if there is an abbreviation for DLL anywhere in 802.3-2008 or P802.3at. If not, consider adding one.

Response #61
Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A
EEE is defined only for point-to-point full duplex links. Delete "a set of" or replace with "two".

Suggested Remedy
EEE is defined only for point-to-point full duplex links. Delete "a set of" or replace with "two".

Response: Response Status: C
ACCEPT IN PRINCIPLE.

Intent is to mean an RX and TX link partners not an RX and TX on an individual port.

With that clarification, commenter is encouraged to submit alternate text if he feels a clarification is still needed.
Cl    SC   P    L    #  
Dietz, Bryan        Alcatel-Lucent

Comment Type    E    Comment Status    A
SuggestedRemedy
Simplify text describing state diagram operation.

Cl    SC   P    L    #  
Dietz, Bryan        Alcatel-Lucent

Comment Type    E    Comment Status    A
SuggestedRemedy
Simplify text by replacing:

"Irrespective of whether the transmitting link partner enters the SYSTEM REALLOCATION
state from the TX UPDATE state; it ultimately returns to the RUNNING state through the
UPDATE MIRROR state where it updates the echo for the Receive Tw_sys."

with

"The transmitting link partner enters MIRROR UPDATE state either from SYSTEM
REALLOCATION or directly from TX UPDATE state. UPDATE MIRROR state then updates
the echo for the Receive Tw_sys and returns to the RUNNING state."

Response    Response Status    C
ACCEPT.

Cl    SC   P    L    #  
Dietz, Bryan        Alcatel-Lucent

Comment Type    E    Comment Status    A
SuggestedRemedy
Variable "New_RX_VALUE" in left exit condition from CHANGE should be
"NEW_RX_VALUE".

Response    Response Status    C
ACCEPT.

Cl    SC   P    L    #  
Dietz, Bryan        Alcatel-Lucent

Comment Type    T    Comment Status    A
The times listed in paragraph 1 and paragraph 2 should be consistent.

SuggestedRemedy
Insert "Under normal operation," in front of first sentence of paragraph.

Response    Response Status    C
ACCEPT IN PRINCIPLE.

"under normal operation" was carry over from .3at where there was legacy support issues
for Type-1. There is no need for it here. Delete "under normal operation" in the paragraphs
starting on lines 30 and 34.

Cl    SC   P    L    #  
Dietz, Bryan        Alcatel-Lucent

Comment Type    E    Comment Status    A
100Base-T should be 100Base-TX.

SuggestedRemedy
Change 100Base-T to 100Base-TX

Response    Response Status    C
ACCEPT.
Please add "(SSD)" after "start of shell delimiter". This would clarify references in other parts of the text.

**Suggested Remedy**

Please add "(SSD)" after "start of shell delimiter". This would clarify references in other parts of the text.

**Response**

**Response Status** C

ACCEPT IN PRINCIPLE.

Text was also revamped. See response to comment #214

---

The state diagram transition condition between TX UPDATE and SYSTEM REALLOCATION contains an "OR" that should be an "AND".

**Suggested Remedy**

Change condition to "AND".

**Response**

**Response Status** C

ACCEPT.

---

Editorial suggestion

**Suggested Remedy**

Change "Definition of 10BASE-Te allows power consumption saving." to "The definition of 10Base-Te allows reduced power consumption."

**Response**

**Response Status** C

ACCEPT.

---

Parts of this clause use smaller than normal typeface.

**Suggested Remedy**

Update type faces to match.

**Response**

**Response Status** C

ACCEPT.
Comment responses

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72

Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A

Word "primatives" is misspelled

Suggested Remedy:
Change to "primatives"

Response: Response Status: C
ACCEPT IN PRINCIPLE.

Change to "primitives"

73

Dietz, Bryan
Alcatel-Lucent

Comment Type: E  Comment Status: A

Typo

Suggested Remedy:
Capitalize "the" at the start of the last sentence in the paragraph.

Response: Response Status: C
ACCEPT.

74

Dietz, Bryan
Alcatel-Lucent

Comment Type: ER  Comment Status: A

Table 72.8.3 states that FEC is optional, however the support choice is "Yes"
There should be a choice of "No"

Suggested Remedy:
If we are going to fix it, add a "No[]" choice

Response: Response Status: C
ACCEPT IN PRINCIPLE.
I'll add the "No [ ]" choice.

75

Dietz, Bryan
Alcatel-Lucent

Comment Type: ER  Comment Status: A

Need add some major headers and fix a couple of mis-number ones.

76

Dietz, Bryan
Alcatel-Lucent

Comment Type: ER  Comment Status: A

Table 72.8.3 states that FEC is optional, however the support choice is "Yes"
There should be a choice of "No"

Suggested Remedy:
If we are going to fix it, add a "No[]" choice

Response: Response Status: C
ACCEPT IN PRINCIPLE.
I'll add the "No [ ]" choice.
Comment responses

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Comment ID # 77

Bennett, Michael

LBNL

Comment Type: TR  Comment Status: A

Subclause references and value/comment fields are incomplete on lines 43 and 45 and Subclause references on lines 48, 50 and line 3 on page 228 are incomplete. Subclauses refer to 72.6.11.x

For example on p 227, the feature is "LPI Transmit state diagram" and the subclause is 72.6.11.x, the value/comment is Meets requirement of Figure 72-16, but the LPI Transmit state diagram is shown in Figure 49-16 on page 154.

Suggested Remedy:
Change references to point to the relevant PCS clauses.

Response

Response Status: C

ACCEPT IN PRINCIPLE.

Will remove deleted requirements and fix references.

Comment ID # 78

Bennett, Michael

LBNL

Comment Type: TR  Comment Status: A

On line 14:

Energy Efficient Ethernet capabilities and parameters will be advertised during the Backplane Auto-negotiation, as described in Clause 45

Should be clause 73

Suggested Remedy:

change to refer to clause 73

Response

Response Status: C

ACCEPT.

Comment ID # 79

Bennett, Michael

LBNL

Comment Type: TR  Comment Status: A

Subclause reference is wrong for Vtw, Vtd, and Vta

Suggested Remedy:

Correct subclause reference is 72.6.5

Response

Response Status: C

ACCEPT.

Comment ID # 80

Bennett, Michael

LBNL

Comment Type: TR  Comment Status: A

Subclause reference is wrong for Tsd and Tsa

Suggested Remedy:

Correct subclause is 72.6.4

Response

Response Status: C

ACCEPT.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

Cl 49 SC Fig 49-17 P 155 L # 83
Pillai, Velu Broadcom

Comment Type TR  Comment Status R
RX_DEACT state is missing. Please refer to the state diagram shown in page 5 of pillai_01_0409
SuggestedRemedy

Response  Response Status C
REJECT.
Comment #89 in the previous draft argued (successfully) that this state is not required.
See response to Comment # 90

Cl 74 SC P 155 L # 85
Pillai, Velu Broadcom

Comment Type TR  Comment Status A
What is the effect of link being on low power state on the FEC Lock state diagram is not clear from the current clause 74 in the IEEE802.3az specification? It is not clear if the fec_block_lock must go to false when the transmission on the link has stopped i.e. when link is in low power state.
SuggestedRemedy

Response  Response Status C
ACCEPT IN PRINCIPLE.
Add a new state to Fig 74-8 to stay in during the EEE mode.
The exit transition out of this new state is qualified by "parity_good + rapid_parity_good". Also add rx_lpi_active to the transition to FEG_LOCK_INT.
The new condition should look like reset + (isignal_ok * frx_lpi_active).
Add rx_lpi_active to fig 74-8.

Cl 49 SC Fig 49-15 P 153 L # 87
Pillai, Velu Broadcom

Comment Type TR  Comment Status A
This state machine does not handle LI code words appearing during normal mode. pillai_01_0409 page 3 shows the necessary changes.
SuggestedRemedy

Response  Response Status C
ACCEPT IN PRINCIPLE.
See #151

Comment Type TR  Comment Status A
FEC Counters may show false errors during transitions in and out of Quiet mode.
SuggestedRemedy

Response  Response Status C
ACCEPT.
Add text to bypass FEC counter during LPI mode

Cl 74 SC Annex 74A P L # 86
Pillai, Velu Broadcom

Comment Type TR  Comment Status A
Table B1 and Table C1 sequences has errors. Need corrections.
SuggestedRemedy

Response  Response Status C
ACCEPT IN PRINCIPLE.
Table B1 will be removed.
C1 will be corrected. New text will be underlined.

TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched  A/accepted  R/rejected  RESPONSE STATUS: O/open  W/written  C/closed  U/unsatisfied  Z/withdrawn
SORT ORDER: Comment ID

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Comment responses

Cl 49 SC 49-15 P 153 L # 88
Pillai, Velu

Comment Type TR Comment Status A
State RX_LI has
rx_raw . DECODE(rx_coded)

Suggested Remedy
It should be
rx_raw <= LI

Response
ACCEPT IN PRINCIPLE.
See #149

Cl 49 SC 49-15 P 153 L # 89
Pillai, Velu

Comment Type TR Comment Status A
The arc that loops back for RX_LI is qualified by "signal_ok +
R_TYPE(rx_coded) = LI". When the transmitter starts the refresh or wake sequence the
signal_ok becomes valid, but R_TYPE may not be LI. Which means the state machine will
arc towards RX_E. This will assert an error in the RS layer.

Suggested Remedy
It should be "rx_lpi_active" to be consistent with 10GBASE-T state diagram.
This state diagram should keep asserting /LI/ towards the RS layer, until the RX LPI State
diagram comes out of LPI mode. Please refer to pillai_01_0409

Response
ACCEPT IN PRINCIPLE.
See #149, 150
Comment responses

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Cl 49  SC Fig 49-17  P 155  L  # 91
Pillai, Velu  Broadcom

Comment Type  TR  Comment Status  A
This state diagram needs changes to handle the proposal on pillai_01_0309.
rx_lpi_active is needed to handle the PCS receive state diagram arc.
R_TYPE(rx_coded)=LI should be R_TYPE(rx_coded) /=LI for the transition from
RX_WAKE and RX_WTF. Also some of the transitions need changes as shown in page 5
of pillai_01_0409.

Suggested Remedy

Response  Response Status  C
ACCEPT IN PRINCIPLE.
See #153

Change the transition condition on the transition from RX_WTF to label B from:
!signal_ok

to:
energy_detect=FALSE

Cl 48  SC Fig 48-9  P 138  L  # 93
Pillai, Velu  Broadcom

Comment Type  TR  Comment Status  A
PCS_receive state diagram shown in Fig 48-9 needs changes to avoid asserting non LI
during transitioning in and out of quiet mode. Using rx_lpi_active as shown in page 7 of
pillai_01_0409 will help to avoid the wrong assertion. RECEIVE_LPI is not needed either.

Suggested Remedy

Response  Response Status  C
ACCEPT IN PRINCIPLE.
See #142

Cl 48  SC Fig 48-9b  P 141  L  # 94
Pillai, Velu  Broadcom

Comment Type  TR  Comment Status  A
RX_ACTIVE and RX_SLEEP needs rx_lpi_active. LPI_fail_timer is not needed in
RX_LINK_FAIL state. Please refer to page 8 of pillai_01_0409.

Suggested Remedy

Response  Response Status  C
ACCEPT IN PRINCIPLE.
See #143, 145

Cl 36  SC Fig 36-7a  P 81  L  # 95
Pillai, Velu  Broadcom

Comment Type  TR  Comment Status  A
Without "rx_lpi_active" transition from LPI_K to IDLE_D can happen during transitioning in
and out of quiet mode (transition from LPI_K to IDLE_D).
To avoid this AND detect_idle with rx_lpi_active. Please refer to page 9 of pillai_01_0409.

Suggested Remedy

Response  Response Status  C
ACCEPT IN PRINCIPLE.
See #128, 129 for details.
### Comment ID # 96

**Comment Type:** TR  **Comment Status:** A

**Comment:** PCS LPI transmit state diagram need rx_lpi_active. Please refer to page 10 of pillai_01_0409.

**Suggested Remedy:**

**Response**

**Response Status:** C

- ACCEPT IN PRINCIPLE.

See #128, 129 for details.

### Comment ID # 97

**Comment Type:** TR  **Comment Status:** A

**Comment:** TXC needs to be high during IDLE

- This diagram should show TXC<3:0>, TXD<31:24>, TXD<23:16>, TXD<15:8>, TXD<7:0>.

- Page 127, line 51 is not correct. TXC<3:0> is 0XF during IDLE and LPI.

**Suggested Remedy:**

**Response**

**Response Status:** C

- ACCEPT IN PRINCIPLE.

See #138

Explicitly state, in the diagram, that all four lanes are the same

### Comment ID # 99

**Comment Type:** TR  **Comment Status:** R

**Comment:** LPI status bits are added 3.1 register. 1000Base-X PCS does not have any definition in Cl45, 3.1 register. If new bits are added then standard has to defined the meaning of rest of the bits that register (Ex: fault)

**Suggested Remedy:**

**Response**

**Response Status:** C

- REJECT.

Many of the bits in register 3.1 are already defined to be meaningful for certain PHYs and not others. None of the bits pose any special problems for 1000BASE-X PHYs.
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TYPE: TR/technical required  ER/editorial required  GR/general required  T/technical  E/editorial  G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID
Comment responses

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May 2009

Cl 14 SC 14 P 17 L 1 # 109
Barrass, Hugh Cisco

Comment Type E Comment Status A

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response Response Status C
ACCEPT.

Cl 22 SC 22 P 27 L 3 # 110
Barrass, Hugh Cisco

Comment Type E Comment Status A

Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response Response Status C
ACCEPT.

Cl 22 SC 22.7 P 35 L 4 # 111
Barrass, Hugh Cisco

Comment Type E Comment Status A

Editor's note is no longer needed.

SuggestedRemedy
Delete the editor's note box.

Response Response Status C
ACCEPT.

Cl 22 SC 22 P 27 L 1 # 112
Barrass, Hugh Cisco

Comment Type E Comment Status A

It's not necessary to have this boilerplate text for every clause.

SuggestedRemedy
Delete all the boilerplate text up to the Clause heading.

Response Response Status C
ACCEPT.
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Cl 36  SC 36.2.5.1.3  P 77  L 16  # 128
Barrass, Hugh Cisco
Comment Type  T  Comment Status  A
(comment originally from Velu)
Also, applies to receive state diagram (fig 36-9b)
Reverse the effect of comment #166 from the previous draft :-) 
There is a requirement for a variable that has the same definition as rx_lpi_mode used to have.

SuggestedRemedy
Restore the definition of rx_lpi_mode and the control of that variable in the receive state diagram.

Response  Response Status  C
ACCEPT.
Also see comments #95 & 96

Cl 36  SC 36.2.5.2.2  P 81  L 5  # 129
Barrass, Hugh Cisco
Comment Type  T  Comment Status  A
(comment originally from Velu)
fig 36-7a PCS receive state diagram
The state machine needs to stay in state LPIDLE_MODE during LP idle.

SuggestedRemedy
Change all 3 exit conditions from state LPI_K to include "(rx_lpi_active = FALSE)"

Response  Response Status  C
ACCEPT.
Also see comments # 95 and 96
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**Comment responses**

**IEEE P802.3az D1.3 Energy Efficient Ethernet comments**

**May 2009**

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**Response**

- **Comment Type**: E
- **Comment Status**: A
- **Editor's note is no longer needed.**

**Suggested Remedy**

- Delete the editor's note box.
- ACCEPT.

- **Comment Type**: T
- **Comment Status**: A
- **(comment originally from Velu)**

  In fig 46-7a TXC should be shown HIGH during IDLE after wake.

  Also, make it clear in the diagram and the text that TXC & TXD are the same for all 4 lanes.

**Suggested Remedy**

- As per comment.
- ACCEPT.

- **Comment Type**: E
- **Comment Status**: A

  It's not necessary to have this boilerplate text for every clause.

**Suggested Remedy**

- Delete all the boilerplate text up to the Clause heading.
- ACCEPT.

- **Comment Type**: E
- **Comment Status**: A

  Editor's note is no longer needed.

**Suggested Remedy**

- Delete the editor's note box.
- ACCEPT.
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Comment responses

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Barrass, Hugh
Cisco

**Comment Type**: T
**Comment Status**: A

(comment originally from Velu)

Effectively the same as comment #128 from the previous draft. Fig 48-9b LPI receive state diagram.

Make the same changes as were accepted for Clause 49, wake time fault.

**Suggested Remedy**

Add new state RX_WTF, counter wake_error_counter and timer rx_wf_timer - both as in Clause 49.

Exit conditions from the new state are the same as RX_WAKE.

**Response**

Response Status: C

ACCEPT.

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Barrass, Hugh
Cisco

**Comment Type**: E
**Comment Status**: A

It's not necessary to have this boilerplate text for every clause.

**Suggested Remedy**

Delete all the boilerplate text up to the Clause heading.

**Response**

Response Status: C

ACCEPT.

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Barrass, Hugh
Cisco

**Comment Type**: T
**Comment Status**: A

(comment originally from Velu)

receive state diagram (fig 49-15)

In state RX_LI, rx_raw should be fixed to LI so that garbage is suppressed during wake-up.

**Suggested Remedy**

Change “DECODE(rx_coded)” to “/LI/”

**Response**

Response Status: C

ACCEPT.

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Barrass, Hugh
Cisco

**Comment Type**: T
**Comment Status**: A

(comment originally from Velu)

receive state diagram (fig 49-15)

State machine needs to stay in state RX_LI while rx_lpi_active is true.

**Suggested Remedy**

For the 2 exit conditions, change "signal_ok" to "rx_lpi_active = FALSE."

**Response**

Delete the loop around transition (it is redundant anyway).

Response Status: C

ACCEPT.
Response

# 151
Cl 49 SC 49.2.13.3 P 153 L 7 # 151
Barrass, Hugh Cisco

Comment Type T Comment Status A
(comment originally from Velu)

receive state diagram (fig 49-15)

If an /LI/ code is received during a non-IPG state then an error must be flagged.

Suggested Remedy

Change exit condition from RX_INIT state from "R_TYPE(rx_coded) = (E + D + T)" to
"R_TYPE(rx_coded) = (E + D + T + LI)"

Change exit condition from RX_D state from "R_TYPE(rx_coded) = (E + C + S)" to
"R_TYPE(rx_coded) = (E + C + S + LI)"

Response Response Status C
ACCEPT.

# 152
Cl 49 SC 49.2.13.3 P 153 L 20 # 152
Barrass, Hugh Cisco

Comment Type T Comment Status A
(comment originally from Velu)

receive state diagram (fig 49-15)

Exit condition from state RX_C (towards flag "E") is missing its end.

Suggested Remedy

Change exit condition to "R_TYPE(rx_coded) = LI"

Response Response Status C
ACCEPT.

# 153
Cl 49 SC 49.2.13.2.2 P 150 L 2 # 153
Barrass, Hugh Cisco

Comment Type T Comment Status A
(comment originally from Velu)

Also, applies to receive state diagram (fig 49-15)

Reverse the effect of comment #81 from the previous draft :-)

There is a requirement for a variable that has the same definition as rx_lpi_mode used to have.

Suggested Remedy

Restore the definition of rx_lpi_mode and the control of that variable in the receive state
diagram.

Change the variable name to rx_lpi_active; change the 2 states to TRUE (formerly ON) and FALSE(formerly OFF).

Response Response Status C
ACCEPT.

# 154
Cl 49 SC 49.2.9 P 147 L 24 # 154
Barrass, Hugh Cisco

Comment Type T Comment Status A
(comment originally from Velu)

The BER state machine (Fig 49-13) needs to be changed so that high BER is not reported
during the shutdown & restart phases. BER should only be monitored when the PCS is locked.

Suggested Remedy

Change fig 49-13.

Change "block_lock" to "trx_block_lock"

Response Response Status C
ACCEPT.
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Delete all the boilerplate text up to the Clause heading.

Delete the editor's note box.

Delete last two sentence. Add the following sentence "Material related to 802.3bc to be converted to editorial instructions against Clause 79 when 802.3bc is stable".

If decision is to do that in D1.3, no need for additional section and modified Editor's note to go into C79 edits.

Barrass, Hugh
Cisco

Response
Response Status
C
ACCEPT.

Response
Response Status
C
ACCEPT.

Response
Response Status
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ACCEPT.

Response
Response Status
C
ACCEPT IN PRINCIPLE.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments
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Cl 78 SC 78.4 P 245 L 26 # 169
Barrass, Hugh Cisco

Comment Type ER Comment Status A
Editor's note indicates that cross reference table will be added.

Suggested Remedy
Add the cross reference table, delete the editor's note box.

Response Response Status C
ACCEPT IN PRINCIPLE.

Update the cross reference to Clause 30 (on page 247, line 4 and in other places in the draft where these crossreference as listed as 30.XX.YY ) and remove the editors note on page 245 line 26.

Cl 78 SC 78.4.1 P 245 L 35 # 170
Barrass, Hugh Cisco

Comment Type ER Comment Status A
Editor's note indicates that this section will be moved to Clause 79.

Suggested Remedy
Add Clause 79 into this document.

Move the TLV definition from 78.4.1 to 79.6a, change 78.4.1 to resemble 33.6.1 from .3at.

Response Response Status C
ACCEPT IN PRINCIPLE.

Agreed. Timing of move to be discussed in Task Force after proposed work plan is presented in the L2 ad-hoc report. Goal is to do the move when 802.3bc is stable.

Cl 78 SC 78.4.3 P 247 L 26 # 171
Barrass, Hugh Cisco

Comment Type ER Comment Status A
The editor's note indicates some changes that might be made.

If the changes are made then the editor's note is no longer needed, if not it is moot.

Suggested Remedy
In either case, delete the editor's note.

Response Response Status C
ACCEPT.

See motion #2

Cl 78 SC 78.4.4.5 P 250 L 3 # 172
Barrass, Hugh Cisco

Comment Type E Comment Status A
Editor's note is no longer needed.

Suggested Remedy
Delete the editor's note box.

Response Response Status C
ACCEPT.

Cl 78 SC 78.5 P 255 L 9 # 173
Barrass, Hugh Cisco

Comment Type T Comment Status A
As far as this commenter understands, the conclusion of the wake time shrinkage concluded that the Tw_sys_rx for backplane PHYs should be the same as similar BASE-T PHYs.

Suggested Remedy
Change the backplane TBD rows as follows:

1000BASE-KX: 12.76, 11, 0, 11, 1.76
100GBASE-KX4: 11.88, 9, 0, 9, 2.88
100GBASE-KR: 14.88, 12, 0, 12, 2.88

Add a new line for 10GBASE-KR (with scrambler_reset_enable = TRUE - use a footnote)

10GBASE-KR: 16.88, 14, 0, 14, 2.88

Response Response Status C
ACCEPT IN PRINCIPLE.

Wake time shrinkage adhoc begat updated numbers.

Use the numbers in pillai_02_0409.pdf
Comment responses

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Cl  14  SC 14.3.1.2.1  P 23  L 27  # 174
Grimwood, Michael  Broadcom

Comment Type  T  Comment Status  A

For 10BASE-Te, TP_IDL and data should be tested against the same twisted-pair model.
This means that the voltage template requirements for transmission of TP_IDL should be
met with the 10BASE-Te twisted-pair model.

Suggested Remedy
Change:
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8.*"

To:
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te.*"

Response  Response Status  C

ACCEPT.

Cl  14  SC 14.3.1.2.1  P 24  L 3  # 175
Grimwood, Michael  Broadcom

Comment Type  T  Comment Status  A

For 10BASE-Te, the link test pulse and data should be tested against the same twisted-
pair model. This means that the voltage template requirements for transmission of the link
test pulse should be met with the 10BASE-Te twisted-pair model.

Suggested Remedy
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8.*"

To:
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te.*"

Response  Response Status  C

ACCEPT IN PRINCIPLE.

Change on line 3 from "with the load connected through the twisted-pair model as defined
in Figure 14-7 and Figure 14-8.*"

To:
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te.*"

And on line 25 from "with the load connected through the twisted-pair model as defined in
Figure 14-7 and Figure 14-8.*"

To:
"with the load connected through the twisted-pair model as defined in Figure 14-7 and
Figure 14-8 for 10BASE-T and Figure 14-7a and Figure 14-8 for 10BASE-Te.*"
In Figure 24-11a, the transition from the state IDENTIFY JK to the state START OF STREAM J is initially triggered by the sequence 11111 (I/) followed by 11000 (J/). This can be the same initial sequence that leads to a transition to the state START_RX_SLEEP (...111 11 000...). However, before the actual transition is complete, implementations may extend RX_CLK as described in the last paragraph of page 15 of 802.3-2005_section2.pdf. In the event that RX_CLK is extended as triggered by the bit sequence 11111 11000, the specification should be modified to allow this extension not only for the IDENTIFY JK to START of STREAM J state but also for the IDENTIFY JK to the START_RX_SLEEP state since the bit sequences that cause these transitions are initially indistinguishable.

**Suggested Remedy**

On page 15 of 802.3-2005_section2.pdf in Section 22.2.2.2 (pertaining to the RX_CLK), append the following sentence to the last paragraph:

"For low power operation, when the receiver transitions from the IDENTIFY JK state to the START_RX_SLEEP state at the transition from the IDLE code-group /I/ to the SLEEP code-group /I/, the PHY may extend a cycle of RX_CLK by holding it in either the high or low condition for an interval that shall not exceed twice the nominal clock period."

Note that this brings 22.2.2.2 into the draft.
Clarify that MASTER clock jitter specifications be met in low-power mode.

**Suggested Remedy**

In section 40.6.1.2.5 change:

When in the normal mode of operation as the MASTER, the peak-to-peak value of the MASTER TX_TCLK jitter relative to an unjittered reference shall be less than 1.4 ns.

To:

When in the normal or low power modes of operation as the MASTER, the peak-to-peak value of the MASTER TX_TCLK jitter relative to an unjittered reference shall be less than 1.4 ns.

**Response**

ACCEPT IN PRINCIPLE.

Add a note:

NOTE - It is expected that new 10 Mb/s devices for twisted pair media will not support both 10BASE-T and 10BASE-Te.

Also change item e (line 52 on page 25) to:

10BASE-T or 10BASE-Te support.
The transmitter wake signal specification has several elements that are either unclear or undefined. Why is there not a single threshold? (For example, if the wake signal is at 90% of nominal idle level 600 nsec after the beginning of Wake, this is outside of the two threshold values so does this mean that the signal is non-compliant?) Also, symbols ratio is not defined. Why is an additional 10% tolerance applied?

This comment suggest simplifying this specification to make it clear.

Suggested Remedy

Change:

The wake signal shall be between 50 and 75% of the nominal idle levels with a symbols ratio within 10% of a nominal idle signal. These requirements shall be met within 700 ns following entry into the WAKE state.

To:

The wake signal shall be at least 75% of the analog signal levels corresponding to a nominal PAM3 (+2, 0, -2) idle signal. These requirements shall be met within 700 ns following entry into the WAKE state.

Response

ACCEPT IN PRINCIPLE.

See response to 182.

We will need to make a change to the state diagram for this change.

Restart the LFER monitoring state machine when you have recovered from sleep and resumed normal operation (when you leave the Rx_W state in the PCS 64B/65B receive state diagram).
Comment responses

Cl  55  SC  55.3.5.4  P  178  L  6  #  182
Grimwood, Michael  Broadcom

Comment Type  T  Comment Status  A
Clarify that LFER Monitor function is not performed during LPI. This clarification is needed for consistency with Figure 55-16 since otherwise undesired transitions to RX_INIT could occur during LPI.

SuggestedRemedy
In 802.3an-2006, page 98, in section 55.3.5.4 change the last paragraph from:
"The PCS shall perform the functions of LFER Monitor, Transmit, and Receive as specified in these state machines."

To:
"The PCS shall perform the functions of LFER Monitor, Transmit, and Receive as specified in these state machines. The PCS shall not perform the LFER Monitor function during low-power operation from the time that the PCS 64B/65B Receiver detects a sleep block until the state RX_W is exited."

Response  Response Status  C
ACCEPT.
See also comment 181

Cl  55  SC  55.4.2.2  P  185  L  4  #  183
Grimwood, Michael  Broadcom

Comment Type  T  Comment Status  A
Specify that the PMA transmit function continuously sources TX_TCLK to explicitly require that jitter and clock drift specifications be met during low-power operation.

SuggestedRemedy
In section 55.4.2.2 1st sentence, 2nd paragraph change:
"When the PMA_CONFIG.indication parameter config is MASTER, the PMA Transmit function shall source TX_TCLK from a local clock source while meeting the transmit jitter requirements of 55.5.3.3."

To:
"When the PMA_CONFIG.indication parameter config is MASTER, for both normal and lower-power operation, the PMA Transmit function shall continuously source TX_TCLK from a local clock source while meeting the transmit jitter requirements of 55.5.3.3."

Response  Response Status  C
ACCEPT.

Cl  78  SC  78.1.4  P  239  L  4  #  184
Grimwood, Michael  Broadcom

Comment Type  E  Comment Status  A
Smaller font was used for the following:
"These services are described in."

SuggestedRemedy
Make font size consistent.

Response  Response Status  C
ACCEPT.
Source seems fine. May be an artifact of conversion to PDF

Cl  78  SC  78.1.3.1  P  238  L  26  #  185
Grimwood, Michael  Broadcom

Comment Type  E  Comment Status  A
Make diagram label match acronym "PLS".

SuggestedRemedy
In diagram, change "Physical Signaling" to "Physical Layer Signaling".

Response  Response Status  C
ACCEPT.

Cl  78  SC  78.1.4  P  239  L  6  #  186
Grimwood, Michael  Broadcom

Comment Type  E  Comment Status  A
Typo.
"prmiavtes" should be "primitives"

SuggestedRemedy

Response  Response Status  C
ACCEPT.
Comment responses

May 2009

Cl 78 SC 78.1.4.1.2 P 239 L 26 # 187
Grimwood, Michael
Broadcom

Comment Type E Comment Status A
Consistent spelling of signaling vs. signalling

SuggestedRemedy
In Clause 78, change all four occurrences of "signalling" to "signaling".

Response Response Status C
ACCEPT.

Cl 78 SC 78.1.5.2 P 241 L 20 # 188
Grimwood, Michael
Broadcom

Comment Type E Comment Status A
Inconsistent font used for the text, "normal interframe".

SuggestedRemedy
Make font consistent. Exact same issue in 78.1.5.3.1, p 241, line 51 and 78.1.5.3.2, p 242, line 28.

Response Response Status C
ACCEPT.

Cl 78 SC 78.2.3 P 244 L 9 # 189
Grimwood, Michael
Broadcom

Comment Type E Comment Status A
Word usage.

SuggestedRemedy
Change "can be" to "is".

Response Response Status C
ACCEPT.

Cl 78 SC 78.1.5 P 240 L 13 # 190
Grimwood, Michael
Broadcom

Comment Type E Comment Status A
Typo.

SuggestedRemedy
Change "dependant" to "dependent".

Response Response Status C
ACCEPT.

Cl 78 SC 78.1.5.1 P 241 L 12 # 191
Grimwood, Michael
Broadcom

Comment Type E Comment Status A
Typo, punctuation.

SuggestedRemedy
Change "PHY dependant" to "PHY-dependent"

Response Response Status C
ACCEPT.

Cl 78 SC 78.3 P 244 L 41 # 192
Grimwood, Michael
Broadcom

Comment Type T Comment Status A
Impose a minimum time between completing link-up and when the LPI Client can initially assert LPI in order to ensure a high-quality, stable link exists prior to entering LPI.

SuggestedRemedy
If EEE is supported by both link partners for the negotiated PHY type then the EEE function may be used independently in either direction.

To:

If EEE is supported by both link partners for the negotiated PHY type then the EEE function may be used independently in either direction with the constraint that the Low Power Idle Client shall not set the LPI_REQUEST parameter to ASSERT until at least 5 msec after link_status=OK.

Response Response Status C
ACCEPT IN PRINCIPLE.

See response to comment #36 . No change required in Clause 78.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments
May 2009

Cl 78 SC 78.1.5.1 P 240 L 53 # 195
Parnaby, Gavin Solarflare Communica

Comment Type E Comment Status A
font appears to be incorrect
either add table like in Annex 28C for clarity or put more text to explain the MP10 bit information. pillai_01_0409 that will be posted during the May interim will also address the remedy.

Response Response Status C
ACCEPT.

Cl 78 SC 78.1.5.3 P 241 L 31 # 197
Parnaby, Gavin Solarflare Communica

Comment Type E Comment Status A
and should be an

Response Response Status C
ACCEPT.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Type: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

Comment Status: D/dispatched A/accepted R/rejected Response Status: O/open W/written C/closed U/unsatisfied Z/withdrawn

Sort Order: Comment ID

1. Cl 78 SC 78.1.5.3.2 P242 L22 #198

- Comment Type: E
- Comment Status: A
- Comment: delete 'some of the'
- Suggested Remedy: ACCEPT IN PRINCIPLE.
- Delete "of the"

2. Cl 78 SC 78.1.6 P242 L33 #199

- Comment Type: E
- Comment Status: A
- Comment: EEE defines Low Power Idle mode ...
- Suggested Remedy: should be EEE defines a Low Power Idle mode...
- Response: ACCEPT.

3. Cl 78 SC 78.2.3 P244 L2 #201

- Comment Type: E
- Comment Status: A
- Comment: add 'the' before 'reception of an IDLE signal' and add 'the' before 'first data codewords'
- Suggested Remedy: ACCEPT IN PRINCIPLE.
- Text was changed. See response to comment #215

4. Cl 78 SC 78.2.3 P244 L9 #202

- Comment Type: E
- Comment Status: A
- Comment: can does not seem to be the right word here
- Suggested Remedy: should or must would be better words.
- Response: ACCEPT IN PRINCIPLE.
- See response to comment #189

5. Cl 78 SC 78.4.1.2 P246 L38 #203

- Comment Type: E
- Comment Status: A
- Comment: Font is incorrect
- Suggested Remedy: Correct font
- Response: ACCEPT.
Comment responses

<table>
<thead>
<tr>
<th>Comment ID</th>
<th>Comment ID</th>
<th>Comment ID</th>
<th>Comment ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>204</td>
<td>205</td>
<td>206</td>
<td>208</td>
</tr>
</tbody>
</table>

**Cl 78 SC 78.4.1.3**

Parnaby, Gavin  
Solarflare Communica

**Comment Type** E  
**Comment Status** A

**Suggested Remedy**  
replace partner with device on lines 50, 51 and 52

**Response**  
Response Status C

ACCEPT IN PRINCIPLE.

The correct term is "link partner". Agreed that shorthand of "partner" maybe confusing. Use "remote link partner" throughout

---

**Cl 78 SC 78.4.4.2**

Parnaby, Gavin  
Solarflare Communica

**Comment Type** E  
**Comment Status** A

**Suggested Remedy**  
than should be that

**Response**  
Response Status C

ACCEPT.

---

**Cl 78 SC 78.5**

Parnaby, Gavin  
Solarflare Communica

**Comment Type** E  
**Comment Status** A

**Suggested Remedy**  
Remove a .

**Response**  
Response Status C

ACCEPT.

---

**Cl 48 SC 48.2.6.1.3**

Parnaby, Gavin  
Solarflare Communica

**Comment Type** E  
**Comment Status** R

**Suggested Remedy**  
delete is in "is set to FALSE"

**Response**  
Response Status C

REJECT.

The sentence would make no sense as suggested.
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Comment ID # 209

Cl 48 SC 48.2.3 P 132 L 45
Parnaby, Gavin Solarflare Communications

Comment Type E Comment Status A

"The ability to transmit or receive Low Power Idle is an option for certain PHYs to support Energy Efficient Ethernet" isn't very clear. The ability to transmit or receive LPI is a requirement for PHYs that support EEE.

Suggested Remedy

Change text to something like

"Certain PHYs may support Energy Efficient Ethernet. PHYs that support Energy Efficient Ethernet are able to transmit and receive Low Power Idle characters."

Response Response Status C

ACCEPT.

Comment ID # 210

Cl 55 SC 55.3.2.2.21 P 170 L 21
Parnaby, Gavin Solarflare Communications

Comment Type E Comment Status R

PHY should be PHYs

Suggested Remedy

Response Response Status C

REJECT.

Actually the sentence is fine.

Comment ID # 211

Cl 55 SC 55.4.2.2 P 185 L 13
Parnaby, Gavin Solarflare Communications

Comment Type E Comment Status A

Change 'is able to generate the alert signal' to 'generates the alert signal as'

Suggested Remedy

Response Response Status C

ACCEPT.

Comment Type T Comment Status A

Why are objectives included?

Suggested Remedy

Delete objectives

Response Response Status C

ACCEPT IN PRINCIPLE.

The following response was approved unanimously by the task force

Delete the heading 78.1.1 (line 8)

Delete section 78.1.2 and renumber subsequent sections if necessary.

Put in the following text after the paragraph on line 13:

Energy Efficient Ethernet also provides a protocol to coordinate transitions to or from a lower level of power consumption and does this without changing the link status and without dropping or corrupting frames. The transition time to and from the lower level of power consumption is kept small enough to be transparent to upper layer protocols and applications.

Comment ID # 212

Cl 78 SC 78.1.2 P 237 L 33
Parnaby, Gavin Solarflare Communications

Comment Type T Comment Status A

100BASE-T should be 100BASE-TX.

There are descriptions of 100BASE-TX, 1000BASE-T and 10GBASE-T EEE modes but nothing about backplane operation.

Suggested Remedy

Correct 100BASE-T.

Add description of operation of the backplane EEE modes here (KX/KR/KX4)

Response Response Status C

ACCEPT IN PRINCIPLE.

100BASE-T will be changed to 100BASE-TX.

Editor will add description of operation of the backplane EEE modes here (KX/KR/KX4)
Comment responses

IEEE P802.3az D1.3 Energy Efficient Ethernet comments

May 2009

Cl 78 SC 78.2.1 P 243 L 5 # 214
Parnaby, Gavin Solarflare Communica

Comment Type: T  Comment Status: A
Does it make sense to define states without any state diagram or normative requirements?

Do we need to define these states? They overlap with states defined in individual clauses.
In my opinion this text confuses things rather than making this clearer.

Suggested Remedy
Delete these state descriptions.

Response  Response Status: C
ACCEPT IN PRINCIPLE.

Make changes as noted in law_1_04_09.pdf

Also make changes in 74 to replace with text the state names that are being deleted in Clause 78

Cl 78 SC 78.2.3 P 243 L 42 # 215
Parnaby, Gavin Solarflare Communica

Comment Type: T  Comment Status: A

The propagation delay of a start of shell delimiter

(lines 42 and 43)

Suggested Remedy
Replace with 'The propagation delay between the xxMII and the MDI'

Response  Response Status: C
ACCEPT.

Text was changed, see response to #214

Cl 78 SC 78.3 P 244 L 37 # 216
Parnaby, Gavin Solarflare Communica

Comment Type: T  Comment Status: A

the text says that Auto-Negotiation is performed upon detection of a PHY error.

This is misleading. Auto-Negotiation is performed when the link drops.

Suggested Remedy
Replace PHY error with link failure.

Response  Response Status: C
ACCEPT IN PRINCIPLE.

"upon detection of a PHY error" will be replaced by "due to link failure"

Cl 73 SC 78.1.1 P 237 L 30 # 217
Parnaby, Gavin Solarflare Communica

Comment Type: E  Comment Status: A

EEE also specifies means

Suggested Remedy
should be

EEE also specifies a means

Response  Response Status: C
ACCEPT.

Cl 78 SC 78.1.1 P 237 L 24 # 218
Parnaby, Gavin Solarflare Communica

Comment Type: E  Comment Status: A
...EEE defines 10 Mb/s PHY ...

Suggested Remedy
should be EEE defines a 10 Mb/s PHY ...

Response  Response Status: C
ACCEPT.
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<td>and should be an</td>
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<td>ACCEPT IN PRINCIPLE.</td>
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<tr>
<td>Change &quot;decided&quot; to decide and adjust sentence to be grammatically correct</td>
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<th>P 30 L 40</th>
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<td>Comment Type</td>
<td>E</td>
<td>Comment Status</td>
<td>A</td>
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<tr>
<td>The MAC should wait for the resolved time before asserting out of LPI. So changing; The MAC device should not assert TX_EN for valid transmit data until after the wake up time specified for the PHY.</td>
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<tr>
<td>The MAC device should not assert TX_EN for valid transmit data until after the resolved wake up time specified for the PHY.</td>
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</tbody>
</table>
Comment ID # 225

GUPTA, SUJAY
Infosys Technologies

Comment Type: T

Comment Status: R

RX_WAKE->RX_QUIET on condition sig_status=OFF, Need to start the lpi_rx_tq timer again

Suggested Remedy

Response: REJECT.

The transition from RX_WAKE to RX_QUIET is added to eliminate an erroneous glitch condition during Quiet state when wake-up energy is too short to decode any valid symbol.

The quiet timer should not be restarted under such circumstance. That's why state START_RX_QUIET is introduced.

Comment ID # 226

GUPTA, SUJAY
Infosys Technologies

Comment Type: T

Comment Status: R

Instead of mentioning state transition is undefined, it can be made dependent on the latch register status. Applies to the recv register as well.

Suggested Remedy

The behavior if read is reliable only if the Transmit low power idle received(45.2.3.2.1a) latch register indicates the same state.

Response: REJECT.

The proposed response does not work in all cases - for example when the PHY has come out of LPI and the indication bit reads 0 whereas the latched bit stays 1. Even if it did work, it doesn't give any more information than stating that the behavior is undefined if read during a state transition (unreliable = undefined).

Comment ID # 227

GUPTA, SUJAY
Infosys Technologies

Comment Type: T

Comment Status: A

Keep a room for mentioning the error counter size.(can be changed later)

Suggested Remedy

The counter is of size 4bytes.

Response: ACCEPT IN PRINCIPLE.

The behavior if read is reliable only if the Transmit low power idle received(45.2.3.2.1a) latch register indicates the same state.

Comment ID # 228

GUPTA, SUJAY
Infosys Technologies

Comment Type: T

Comment Status: A

Suggesting timer name change;

Suggested Remedy

Call li_timer -> lp_intimer and tw_timer -> lp_outtimer, the term tw is overloaded.

Response: ACCEPT IN PRINCIPLE.

Li_timer is deleted by #26.

tw_timer is an appropriate name for the function.
Comment responses  
IEEE P802.3az D1.3 Energy Efficient Ethernet comments  
May 2009

Comment ID # 229
Cl 22 SC 22.7 P 34 L 7 GUPTA, SUJAY Infosys Technologies

Comment Type: E  Comment Status: A
Need a figure for logical location of the LPI SM, which layer it interfaces. Can be mentioned in figure 22-20a, page 33.

Suggested Remedy

Response  Response Status: C
ACCEPT IN PRINCIPLE.
There is no need for a new figure, however it needs to be stated explicitly in the text describing Fig 22-20a how the LPI transmit state machine is involved.

At the end of the second paragraph in 22.7a (p.33, l.44) add the following sentence:
"The timing of PLS_CARRIER.indication when used for the LPI function is controlled by the LPI transmit state machine."

Comment ID # 230
Cl 24 SC 24.3 P 51 L 6 GUPTA, SUJAY Infosys Technologies

Comment Type: E  Comment Status: A
It should be "PMA_LPILINKFAIL.request" instead of PMA_LPILINK.request primitive.

Suggested Remedy

Response  Response Status: C
ACCEPT.

Comment ID # 231
Cl 14 SC 14.1 P 19 L 23 GUPTA, SUJAY Infosys Technologies

Comment Type: E  Comment Status: A
The section talks about MAU, so the keyword maybe removed as it is understood.

Suggested Remedy

Response  Response Status: C
ACCEPT IN PRINCIPLE.

Response  Response Status: C

Comment ID # 232
Cl 22 SC 22.2 P 29 L 12 GUPTA, SUJAY Infosys Technologies

Comment Type: E  Comment Status: A
In Carrier_Status is dependent independently on the basic MII CRS plus our new addition the LPI SM. Recommending to change the language clause.

The CARRIER_STATUS parameter can take one of two values: CARRIER_ON or CARRIER_OFF. The values CARRIER_ON and CARRIER_OFF are derived from the MI signal CRS and from the transmit LPI state machine.

Suggested Remedy

The CARRIER_STATUS parameter can take one of two values: CARRIER_ON or CARRIER_OFF. The values CARRIER_ON and CARRIER_OFF can be derived from the MI signal CRS and also from the transmit LPI state machine.

Response  Response Status: C
ACCEPT.

Comment ID # 243
Cl 78 SC 78.2 P 244 L 22 Bennett, Michael LBNL

Comment Type: TR  Comment Status: A
The values in Table 24-2 do not match the values in table 78-2

Suggested Remedy

according to slide 12 in chou_02_0708.pdf, which was adopted as a baseline, the values in 78-2 are correct. Make the tables consistent

Response  Response Status: C
ACCEPT IN PRINCIPLE.

It is true that the value between Table 24-2 and Table 78-2 are inconsistent. Based on the final resolution of comment #62 of draft 1.2.1, There is a statement:
"Change the default value of lpi_tx_ts_timer, lpi_rx_ts_timer, and lpi_br_tr_timer to 200us - 220us."

Therefore, Table 78-2 need to be updated with the timer value according to the following changes:
Ts 200 us (min) 220 us (max)
Tq 20,000 us (min) 22,000 us (max)
Tr 200 us (min) 220 us (max)
<table>
<thead>
<tr>
<th>Comment ID</th>
<th>SC</th>
<th>P</th>
<th>L</th>
<th>CL</th>
<th>Comment Type</th>
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<td></td>
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<td>0</td>
<td>E</td>
<td>A</td>
<td>Diab, Wael</td>
<td>C</td>
<td>Suggest having consistancy or deleting alltogether. Accept.</td>
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<tr>
<td>245</td>
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<td>16</td>
<td>8</td>
<td></td>
<td>E</td>
<td>A</td>
<td>Diab, Wael</td>
<td>C</td>
<td>There seems to be a heading issue. Section 1.1 appears under 1.5. Accept.</td>
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<tr>
<td>246</td>
<td>78.4</td>
<td>16</td>
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<td>E</td>
<td>A</td>
<td>Diab, Wael</td>
<td>C</td>
<td>This section is intended to be an expantion of abbreviations, not an explanation. Accept.</td>
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<tr>
<td>247</td>
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<td>22</td>
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<td>A</td>
<td>Diab, Wael</td>
<td>C</td>
<td>Several of the cross-refs appear in blue. The cross references that appear in blue have no link within this amendment. However, this is not documented anywhere in the draft - causing comments such as this. Accept.</td>
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<tr>
<td>248</td>
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<td>78</td>
<td>TR</td>
<td>A</td>
<td>Diab, Wael</td>
<td>C</td>
<td>Pls make the changes to support fallback mode. Accept.</td>
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<tr>
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<td>Suggest that all clause editors and other TF officers are listed. Accept.</td>
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<td>In figure 48-3a, LI is only indicated in Lane 1 and is as such inconsistent with clause 48.3.1.5a and table 48-3 which indicate LI in all the lanes.</td>
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<td>Suggested Remedy</td>
<td>Modify figure 48-3a to indicate LI in all the lanes.</td>
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<td>When the MAC deasserts LPI it should send a normal idle which includes deassertion of TXD as well. Also deassertion of TX_EN is not required since its not asserted during LPI (this will be consistent to clause 35). Thus change</td>
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<td>&quot;When the MAC device wishes the PHY to transition out of the low power idle state it deasserts TX_EN and TX_ER.&quot;</td>
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<td>This section shortly describes the concept of LPI on a PHY layer but only for 100baseTX, 1000baseT and 10GbaseT. From todays point of view this is incomplete and describes only a subset of PHYs.</td>
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</table>
Rows in Table 49-3 has reference to autonegotiation of Twr - which has since been ditched.

SuggestedRemedy
Delete "TWR is set by the remote link partner during Auto-negotiation." (2 instances)

Response
Response Status C
ACCEPT.

The FEC sublayer will require rx_lpi_active, so it must be added to the interface.

SuggestedRemedy
Add rx_lpi_active to fig 49-4 (just below scrambler_reset).

Response
Response Status C
ACCEPT.

Also add the same change to comment 84

The signal detect times need to be changed to match wake time shrinkage.

SuggestedRemedy
In table 71-6, change values for Tsa & Tsd from 2uS to 750nS.

Response
Response Status C
ACCEPT.

The signal detect times need to be changed to match wake time shrinkage.

SuggestedRemedy
In table 72-9, change values for Tsa & Tsd from 2uS to 750nS.

Response
Response Status C
ACCEPT.